
PINCHOT INSTITUTE FOR CONSERVATION



The Pinchot Institute for Conservation is a non-profit natural resource policy, research, and education organization dedicated to leadership in conservation thought, policy, and action. The Pinchot Institute was dedicated in 1963 by President John F. Kennedy at Grey Towers National Historic Landmark in Milford, Pennsylvania, historic home of conservation leader Gifford Pinchot, to facilitate communication and closer cooperation among resource managers, scientists, policy-makers, and the American public. The Institute continues Pinchot's legacy of conservation leadership as a center for policy development in support of sustainable forest management. Through Grey Towers Press, the Institute publishes policy reports, discussion papers, books, and the Pinchot Lecture series.



PINCHOT INSTITUTE
FOR CONSERVATION

1616 P Street, NW, Suite 100 • Washington, DC 20036

FOREST STEWARDSHIP: MARSH, PINCHOT, AND AMERICA TODAY

by David Lowenthal

PINCHOT
LECTURE
SERIES



FOREST
STEWARDSHIP:
MARSH,
PINCHOT, AND
AMERICA
TODAY

By David Lowenthal

Pinchot Institute for Conservation
Distinguished Lecture

Presented on April 6, 2001
at
The Cosmos Club
Washington, DC

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TABLE OF CONTENTS

Prefacev

Introduction.....vii

Pinchot Lecture1

About the Author23





Grey Towers National Historic Landmark, Milford, Pennsylvania

PREFACE

George Perkins Marsh's *Man and Nature*, first published in 1864, shocked many Americans into realization that forest exploitation could lead to permanent alteration of the environment at a continental scale—just as it had done throughout the entire Mediterranean region centuries before. Marsh's scholarship, and his first-hand observations while serving as the American ambassador to Italy, persuaded concerned Americans to take action. Thus began the Conservation Movement, which became Gifford Pinchot's life calling. That *Man and Nature* had significant influence on Pinchot's early thinking about conservation can be little doubted. A well-thumbed copy of the book belonging to Gifford, a gift from his younger brother Amos upon his graduation from Yale in 1886, is now part of the historical collection at Grey Towers.

Dr. David Lowenthal was selected by the Pinchot Institute to present the Pinchot Distinguished Lecture for 2001 at the Cosmos Club in Washington, DC. Dr. Lowenthal is Professor Emeritus and Honorary Research Fellow at University College London. He is the author of a new biography of Marsh, entitled *George Perkins Marsh, Prophet of Conservation*. In the Pinchot Distinguished Lecture for 2001, Dr. Lowenthal traces the precepts of conservation policy to Marsh's writings, and describes the principles and philosophies that united early conservationists like Gifford Pinchot and John Muir behind common goals, despite differing tactical approaches. Dr. Lowenthal discusses what Marsh's insights have to tell us today, as we craft our own evolving vision of forest stewardship and conservation.

The Pinchot Distinguished Lecture series was begun in 1986 to recognize leaders in conservation thought and policy, and to advance the frontiers of understanding about contemporary conservation issues by placing them in historical context. The lectures, published by the Pinchot Institute and distributed through Grey Towers Press, are intended to inform and enlighten today's conservation leaders—but also to inspire them with the knowledge that, just as our forebears met the difficult challenges of their own era, so too can we rise to successfully meet the natural resource conservation challenges of our own day.

V. Alaric Sample
President
Pinchot Institute for Conservation
Washington, DC

INTRODUCTION

It is really a great pleasure to introduce our Pinchot Distinguished Lecturer for 2001, Professor David Lowenthal. Professor Lowenthal's new book *George Perkins Marsh, Prophet of Conservation* re-introduces us to one of the earth's great conservation thinkers. I quote from Dr. Lowenthal's preface:

“Next to Darwin's *On the Origin of Species* of 1859, Marsh's *Man and Nature* of 1864 was the most influential text of its time to link culture with nature, science with society, landscape with history.”

“Its influence endures..., successive crises rekindling its relevance.”

The distance of time has dimmed the power and fury of George Perkins Marsh. But as we re-awaken to his words and our focus becomes clearer, Marsh's voice on watershed and forest conservation, on democracy and environmental citizenship, on the complex nature of stewardship—resonates and connects with many of the environmental crises of our day as well as his. Marsh's voice resonates as well with the mission of the Pinchot Institute for Conservation; in particular, the Pinchot Institute's work in stewardship contracts, watershed restoration and forest certification. Marsh's voice is also reaching larger and more diverse public audiences through the activities of the Marsh-Billings-Rockefeller National Historical Park, in Marsh's hometown of Woodstock, Vermont. This new national park tells the many stories of our conservation history, interpreting the ethics and practice of stewardship and the particular contributions of George Perkins Marsh, Frederick Billings and Laurance Rockefeller. Marsh's message is further amplified by the Conservation Study Institute, established by the National Park Service at the National Historical Park to further the National Park Service's objective of stewardship education, community partnerships and collaboration.

In 1874, a reviewer of the second edition of Marsh's *Man and Nature* described it as “one of the most useful and suggestive works ever published,” coming “with the force of revelation.” Gifford Pinchot, who knew a thing or two about revelations, referred to his copy of *Man and Nature*, given to him on his 21st birthday, as “epoch-making.”

Dr. Lowenthal, like his biographical subject George Perkins Marsh, is a renaissance man. His contributions have shaped inquiry in many disciplines including geography, historic preservation, and, of course, environmental history. He is a master in the art of discourse—continuously engaged in lively exchange on an extraordinarily wide range of subjects.

Dr. Lowenthal is Professor Emeritus of Geography and Honorary Research Fellow at University College London. His books include *The Past Is a Foreign Country*, *The Heritage Crusade and the Spoils of History*, and *George Perkins Marsh, Prophet of Conservation*. We are particularly pleased to note that he is currently working with University of Washington Press to bring out a new edition of *Man and Nature* with a new introduction, which David has written.

Rolf Diamant
Superintendent
Marsh•Billings•Rockefeller National Park
Woodstock, VT

FOREST STEWARDSHIP: MARSH, PINCHOT, AND AMERICA TODAY

Gifford Pinchot bridges my own ties to George Perkins Marsh and to modern stewardship. Over a half century I have known many Marsh kin—no offspring survived—two of whom shared his last days in 1882 at Vallombrosa, Italy's first forestry school. And I recall Supreme Court justice Oliver Wendell Holmes, a kindly eminence in 1920s Washington, much as Holmes recalled Marsh in 1850s Cambridge.

Pinchot early imbibed Marsh's environmental precepts; the "epoch-making" *Man and Nature* was a 21st birthday gift to Gifford from his brother Amos. Marsh's 1864 saga of global forest loss stayed pivotal for Pinchot. So did Marsh's mandate for public control of national resources against private greed and corporate plunder.

Pinchot credited two mentors who had been close to Marsh. Sir Dietrich Brandis, whose forest conservation in India owed much to Marsh's insights, steered young Pinchot to the French forestry school at Nancy and later helped him staff the U.S. Forest Service. Civil War hero General William Tecumseh Sherman was a staunch friend of Marsh, the Pinchot family, federal rectitude, and the forestry cause.

President Taft fired Pinchot as Forest Service Chief in 1910 for blocking Secretary of Interior Richard Ballinger's public lands giveaway in Alaska. The ensuing congressional inquiry alerted the public that the whole conservation mission was at risk. Crucial to Pinchot's case were two later idols of mine. Insurgent Republican Representative George Norris of Tennessee got Joint Committee inquiry members chosen by the entire House rather than by Speaker Joseph Cannon alone, thus averting a whitewash and letting forest stewards blazon their cause. Norris kept on minding the public weal for 40 years in both houses of Congress. He was one of a clutch of mostly New England and Midwestern senators—Warren Austin of Vermont, Charles Tobey of New Hampshire, Hugo Black of Alabama, Wisconsin's La Follette, William Borah of Idaho, Alben Barkley of Kentucky, Clyde Reed of Kansas, Burton Wheeler of Montana, Harry Truman of Missouri—whom my Minnesota father counseled in Senate probes of corporate shenanigans.

Also pivotal to Pinchot's conservation was Louis Brandeis,

whose legal acumen unearthed the smoking gun that shattered Richard Ballinger's case. Like Marsh a half century before, Brandeis had flayed corrupt New England railroads; Marsh got kicked upstairs to an embassy in Italy, Brandeis to the Supreme Court. To Brandeis' famed at-homes in 1937 my father brought Harry S Truman, new chair of the Senate inquiry into railroad finance. Concurring with Brandeis "on the dangers of bigness," Truman scourged corporate vice in the spirit of Marsh, whose "anathema on the scoundrel railroaders" provoked him to urge "a gallows-car attached to every train, and a director hanged at each trip."¹ Truman was no less caustic. He told the Senate that Jesse James rose at dawn and risked his life to rob the Rock Island Railroad of \$3,000; to steal \$70 million from the same railroad, holding company directors hardly had to get out of bed. "Senators can see what 'pikers' Mr. James and his crowd were alongside of some real artists."² I also recall Justice George Sutherland, a Ballinger crony when senator from Utah, in Pinchot's words a "bitter enemy of the National Forests and one of the most consistent reactionaries it has ever been my ill fortune to meet," then and later on the Supreme Court "uniformly, one might almost say viciously," plugging propertied interests.³

MAN AND NATURE: A CATALYST FOR FOREST CONSERVATION IN THE UNITED STATES

My story starts with *Man and Nature*. Applying the lessons of Old World wrack and ruin to newly cutover America, Marsh's book was what Wallace Stegner called "the rudest kick in the face that American initiative, optimism and carelessness had yet received."⁴ Every leader was inspired by and sought Marsh's advice. Frederick Starr in Missouri and I. A. Lapham in Wisconsin in the 1860s excerpted *Man and Nature* to warn of disaster unless forests were protected. Roused to remedial fervor, American foresters mounted the famed American Association for the Advancement of Science 1873 petition, sparking a host of federal forest acts and agencies. Franklin Hough drew heavily from *Man and Nature* for the 1873 petition, held Marsh the pioneer crusader against excessive felling, and begged him to come home to guide American forestry. Nathaniel Eggleston, Hough's successor as forestry chief, credited *Man and Nature* with "awakening our attention to our destructive treatment of the forests, and the necessity of adopting a different course." G. B. Emerson, Bernhard Fernow, John A. Warder, and C. S. Sargent all paid the book tribute.⁵

What made *Man and Nature* effectual? Its practical bent; Marsh's express aim was to stop resource abuse. Its vignettes of European land management repair—speedy, seemingly cheap, easy to copy—then under way. Marsh's diplomat-scholar repute, ramified through a broad government and science network. The book's apocalyptic tone and rhetorical power, with graphic scenes of ruin. Thus, when forests were cleared, Marsh writes,

"The soil is alternately parched by the fervors of summer, and seared by the rigors of winter. Bleak winds sweep unresisted over its surface...and dry up its scanty moisture.... Bared of leaves, broken and loosened by the plough, dried and pulverized [the soil] grows less and less productive, less able to protect itself from wind and sun and scouring rain. Gradually it becomes altogether barren. [In] parts of Asia Minor, of Northern Africa, of Greece, and even of Alpine Europe,...causes set in action by man have brought the face of the earth to a desolation almost as complete as that of the moon.... The earth is fast becoming an unfit home for its noblest inhabitant, and another era of equal human crime and human improvidence...would reduce it to

such a condition of impoverished productiveness, of shattered surface, of climatic excess, as to threaten the depravation, barbarism, and perhaps even extinction of the species.”⁶

ORIGINS OF MARSH’S ENVIRONMENTAL FORESTRY

Let us backtrack 17 years to 1847, when Marsh first aired forest matters to fellow-Vermonters. He was then a third-term congressman, born and raised on the edge of the Green Mountain forest, once boundless, by now much logged for timber, fuel, and sheep pasture. He noted that, within a single generation, fertile valleys had become “wastes of shingle and gravel and pebbles, deserts in summer, and seas in autumn and spring.” The cause? A heedless “rage for improvement” that stripped off forest cover. Denuded slopes ceased to conserve and equalize moisture. “No longer intercepted and absorbed,” rain and snow “flow swiftly over the smooth ground, washing away the vegetable mould [to] fill every ravine with a torrent.”

By logging only at stated intervals, like some Europeans, Vermonters might restore nature. The cost of timber and fuel should teach us that “trees are no longer what they were in our fathers’ time, an incumbrance.” Marsh trusted “enlightened self-interest [to] introduce the reforms, check the abuses, and preserve us from an increase of [the] evils” he had limned.⁷ Time would dim his faith.

To the botanist Asa Gray in 1849 Marsh outlined the range of woodland benefits. Trees ameliorated microclimate, enriched undergrowth, replenished soils. Above all, they checked “the rapid flow of rain-water and melting snows, thereby diminishing the frequency and violence of freshets,” averting highland degradation and lowland inundation. Forests were also sites of recreation and natural beauty, animal and plant refuges, and havens for insect-eating birds. Marsh urged the national forest survey and forest experiment program that took another half century to come into being, with C.S. Sargent and Bernhard Fernow in the 1880s and 1890s.⁸

Five years in the Mediterranean region, when the American envoy to Turkey, vivified Marsh’s comparative insights. He was struck by “the great quantity of [French] woodland,” with “every inch of ground not tillable planted with trees as thick as they will grow,” yet “the absence of anything like an American idea of a forest” among the lopped and trimmed trees along Old World roads and streams. Home again in 1856, Marsh cited Old World deforestation to caution the New. Americans already suffered soil-wash, drying up of springs, “increased violence of our freshets.”⁹ In an

1857 report on Vermont's declining fisheries, Marsh blamed logging, which depleted insects on which fish larvae fed, poisoned habitats with sawdust, and caused floods that swept away fish and eggs, muddied channels, and destroyed stream bank spawning sites. Restricted logging, afforestation, and stream control might mitigate such damage, as in Europe.

Timber famine had long menaced Europe. Forests had succumbed to the settler's axe, the peasant's plow, livestock, naval, and other demands, and the needs of growing numbers for fuel and shelter. Hence state forests and private woodlands were strictly guarded. Taking wood for fuel, foraging for brush, even pasturing were punished to curtail forest attrition. Still the woods continued to dwindle. Imperial conquest and new manufactures multiplied timber needs for shipbuilding and smelting. Scarcity spurred silviculture: some states began to harvest trees on a sustained basis and to replant with selected species.

Through the 18th century almost all forest controls aimed simply to save wood, not to conserve soil or water or to protect arable lands and towns. Environmental forestry stemmed mainly from 19th-century France. During the French Revolution, peasant incursions and fires had devastated forests seen, like chateaux, as emblems of elite oppression. Ecological disaster ensued. In 1797 Jean Antoine Fabre described how fire, logging, and overgrazing in Alpine France had ravaged millions of arable acres below, torrents gouging valley bottoms or burying them in silt. Engineers measured the effects of plant cover on stream flow and soil temperature, showing how forests slowed runoff by intercepting precipitation and storing snow. Organic debris on forest floors absorbed up to ten times its weight in water, further reducing runoff and erosion.

Reimposing order over both land and people, the restored French monarchy launched a quasi-military forest code in the 1820s. Woodlands were managed and policed from the School of Forestry in Nancy, largely staffed by émigré German tree experts. Mountain afforestation was mandated and grazing prohibited to govern stream flow, conserve soil, and protect crops. Watershed control became a moral crusade; Napoleon III in 1857 pledged, "rivers, like revolution, will return to their beds and remain unable to rise during my reign." By the time *Man and Nature* appeared in 1864, France had begun to quell torrent damage.¹⁰ Facing analogous timber shortages and erosive ravages, Swiss, German, and Italian foresters won state forest control.

MARSH'S MANIFESTO IN *MAN AND NATURE*:

Back in Europe after 1861 as American envoy to Italy, Marsh observed the erosive force of wind and water in the Alps and Apennines, avalanches at Eismeer and Grindelwald, landslides along the Riviera, torrents laden with soil stripped from Dauphiné valleys. In the upper Durance and along the denuded branches of the Rhone, he saw havoc that made Vermont's decay seem trifling. These scenes, and talks with European foresters, reinforced concerns Marsh had already voiced and his warnings for America.

After sketching Old World forest decline, ensuing damage, and restoration efforts, *Man and Nature* addresses New World forest problems. Logging greed and careless fires had already wasted America's finest timber east of the Mississippi. Yet wood for fuel and construction was insistently demanded. Americans must protect and improve their forests. Restricted cutting would conserve existing stocks; planting, culling, and pruning would enrich them. Where trees were crucial for soil moisture and plant cover, logging should cease. "We have now felled forest enough everywhere, in many districts far too much." How much land should be wooded depended on climate, terrain, soils—but at least a quarter to a third of the surface. "The most destructive among the many causes of the physical deterioration of the earth," Marsh sums up, was "the too general felling of the woods."¹¹ Much to blame for the collapse of classical realms, it now threatened civilized life in the New World as in the Old.

Forest cover for watershed protection was Marsh's supreme concern. He never ignored other forest functions—for steady supplies of timber and fuel, for study and sport and repose and play, as heritage refuges for relic and potentially useful plants and animals. He sought an Adirondack forest reserve as "at once a museum for the instruction of the student, a garden for the recreation of the lover of nature, and an asylum [for] indigenous tree, and humble plant that loves the shade, and fish and fowl and four-footed beast." Though such uses brought scant revenue, "the [undisturbed] forest alone, economically managed, would soon yield a regular income larger than" did current timber fees. But "the collateral advantages of the preservation of these forests would be far greater," Marsh stressed, than the pecuniary profits. The environmental worth of the woods—holding water, shielding fertile lands, equalizing temperature and humidity, and securing soils and river regimens — far exceeded their extractive value for fuel and timber.¹²

FROM GLUT TO FAMINE IN AMERICAN TIMBER

Marsh's message ran directly counter to New World habits of forest use. Forest resources were squandered because Americans considered it their freeborn right to appropriate them, as it was their pioneering mission to convert woods to fields and pasture. Forest regulations were few and rarely enforced. There was no forestry research or education; Americans were too busy getting rid of trees to think of saving them, let alone cultivating them. Above all, the vast expanse of forest in the eastern United States and Canada, and the untold wealth of the untapped forests of the West left lumbermen heedless of restraint; supplies were limitless.

But *Man and Nature* soon began to seem not merely prescient but timely. Post-Civil War America marked a turning point from nature enjoyed as bounteous to nature perceived as niggardly. Earlier "the matters of which Mr. Marsh treats were only of curious interest," remarked Princeton President James McCosh. "Our woods: were they not exhaustless?" By the early 1870s things looked far less rosy. "We have been brought very sharply to a realizing sense of our natural limitations." Railroad building had stripped eastern forests; western lands had proved more and more arid, with "huge tracts where nothing but sage-brush or chaparral grows." Deceived by nature's false promises, Americans were also self-deceived; as Marsh showed, they had themselves to blame for the "unwelcome changes" caused by their "restless disturbance of the equilibrium of nature."¹³

In fact, few learned *that* lesson. Marsh's environmental thrust—conserving forest cover to protect soils and aquifers and prevent excesses of stream flow—was all but forgotten in the next half century's crusade to stave off an imminent dearth of timber by finding, protecting, and planting trees. The crisis and the Forest Service both arose from the fear that insatiable fuel and construction needs had outstripped supplies newly seen as finite. By the 19th century's end, the closing of the frontier and further demands for wood aggravated the panic. "If the present rate of forest destruction is allowed to continue," President Theodore Roosevelt warned the 1905 forestry congress, "a timber famine in the future is inevitable." From the 1870s to the 1920s and beyond, foresters prescribed conservation remedies to stave off exhaustion of timber supplies crucial to American power and progress.¹⁴

The ecological costs of deforestation were not entirely ignored. Alerted to environmental risks, Hough, Egleston, and Fernow urged forest cover to protect mountain headwaters. Interior Secretary Carl Schurz in 1877 paraphrased Marsh's erosion and soil-loss lessons from deforested Old World watersheds; such ill effects as floods and droughts, dried-up springs, and erratic stream flow were "a matter of universal experience the world over."¹⁵ But *Man and Nature's* alarmist omens were cited primarily against the loss not of trees but of timber. Foresters felt the myth of inexhaustibility the chief impediment to public acceptance of federal forest protection. Watershed management was mostly a vehicle to secure sustainable timber supplies. Marsh's ecological point—the metaphor of forest as sponge—helped to sell the 1891 Forest Reserve Act and the 1897 Forest Management Act. But the bottom line was timber production. So it remained for another half century, long after farmland decline and alternative sources of fuel and building materials had made timber a surplus commodity.

Soil erosion and stream derangement became major issues for American land managers only in the wake of Dust Bowl disasters of the 1930s. And then it was the Soil Conservation Service, not the Forest Service, that revived Marsh's lessons and warnings. Indeed, the main environmental message drawn from *Man and Nature* prior to 1900 was a gross error: the delusion that tree planting would bring rain to fructify the arid West. As settlers moved into ever-drier lands, *Man and Nature* was pillaged for "proof" that rainfall followed afforestation. Marsh's stress on the dire effects of clearing was distorted to make rainmaking seem respectable.¹⁶ When trees failed to bring rain, Marsh's actual environmental lessons were forgotten or trivialized.

THE PINCHOT AGENDA

Watershed management did concern Gifford Pinchot. European evidence of how forests influenced stream flow suffused his 1897 Forestry Commission report. Pinchot's contribution to Theodore Roosevelt's 1901 inaugural stressed that forests curbed soil wash and restrained and replenished water courses. The 1905 Forest Service *Use Book* mandated keeping forest cover to regulate stream flow. Erosion deterrence and headwater protection were among the benefits of forest stewardship stressed at Roosevelt's Governors' Conference of 1908. Launching Bull Moose reform in 1910, Pinchot adjured Americans that it was their moral, patriotic duty to stem upland erosion and avert lowland flooding by conserving forest cover.

But for Pinchot, forestry's ecological functions generally took a distant second place to avowedly economic benefits of sustained-yield management. The forest was "a working capital whose purpose is to produce successive crops," he told Congress and timber producers in 1901. While Pinchot preached root-and-branch reform of American land-use behavior, he pushed forest management programs mainly to maximize timber yields; conservation was about economic returns, not about beauty or pleasure. And even after the worst perils to forest supplies had been overcome, Pinchot repeated dire warnings of timber scarcity. "Forest Devastation" was "A National Danger," as he entitled a 1919 tract, for "without the products of the forest civilization as we know it would stop."¹⁷

Pinchot never lost sight of forests' environmental benefits. But he cited them less for ecological than for economic and social stewardship ends. And he forgot what he owed to Marsh and to his European mentors. "Suddenly the idea flashed through my head," he wrote of a 1907 winter's day ride in Rock Creek Park, "that trees, public lands, mining, agriculture, stream flow, soil erosion, fish, were not isolated and separate problems," but involved a synthesis of many issues uniquely conjoined in the Forest Service. To be sure, others had noted the effects of forests on floods, erosion, wild life, and so on. "But it had occurred to nobody, in this country or abroad, that here was one question instead of many, one single gigantic problem that must be solved."¹⁸ Had Pinchot really forgotten the insights he'd gained from Marsh, Brandis, Schurz, Fernow? Maybe not, but he overlooked these men and fancied himself newly wise.

After Pinchot's ouster in 1911, the Forest Service paid the environment less and less heed. The indirect influences noted by earlier foresters meant little to Henry Graves or William Greeley. The forest was to be stewarded simply as a reservoir of wood for extractive use. Productivity meant selling mature trees and renewing young growth as completely and as quickly as possible. Waste was the fancied enemy: preventing forest fire became a crusade as zealous and pious as stream control for Napoleon III. "The whole fire question in the United States," as Fernow had put it, "is one of bad habits and loose morals."¹⁹ Not until the 1960s did foresters reverse managerial precepts in line with ecological principles.

WILDERNESS VERSUS WISE USE

The split between conservation's two camps, the Marsh-Pinchot wise-resource users and the Thoreau-Muir hands-off the wilderness aesthetes, is in large measure an artifact of 20th-century quarrels. Both Marsh and Pinchot loved trees and delighted in nature; neither Thoreau nor Muir rejected forests' ecological and economic benefits. But for Marsh and Pinchot, as for the vast majority of their countrymen, human well-being required the sacrifice of most wild woodlands. Regrettable as this might seem, Marsh saw no alternative but to "accept nature in the shorn and crippled condition to which human progress has reduced her."²⁰ Yet he preferred managed and "artificial" woods to old-growth "primitive" forest not only on economic but even on aesthetic grounds. Like European foresters, Marsh extolled selectively planted, regularly pruned woods. His very last days, at Vallombrosa in 1882, left him "more than ever impressed with the superiority of the timber of the artificial forest." And Pinchot famously scoffed at the "sentimental nonsense" of adoring the wilderness.²¹

Yet the worth of keeping *some* primeval woodland was as evident to Marsh and Pinchot as to Muir and Roosevelt. Marsh backed the Adirondacks reserve for both "poetical" and "economic" reasons. "Only in the unviolated sanctuaries of nature" could one gain "that special training of the heart and intellect" indispensable to the spirit.²²

Even as old-growth Western forests were chopped down for lumber they evoked respect and awe. Yet foresters who boasted that grand, huge American trees surpassed anything in Europe did their best to eliminate wild woods and make their forests more European, more efficient. For Pinchot and his successors, turning riotous old growth into a regulated crop was not merely an economic but a moral crusade against the virgin forest's useless decadence.²³

As early as the 1920s, however, the semblance of virginity began to pay for itself in both national parks and national forests. Thanks to mass motorcar touring, recreational and aesthetic forest uses began to compete with timber as a commodity. In time, the gospel of efficient lumbering gave way to a gospel of beauty and pleasure.

None at first saw any conflict between public enjoyment of wild scenery and protecting that scenery against being loved to

death, let alone ceasing to be truly "wild." Early back-to-nature advocates envisioned forest and park reserves as sanctuaries not of nature minus man but as locales to restore manly pioneering virtues. Marsh looked to Green Mountains hunting and fishing to revive frontier traits of hardihood, endurance, and self-reliance essential to American liberty. Roosevelt fifty years later looked to Yellowstone to keep unspoiled "bits of the old wilderness scenery and the old wilderness life [for] our children's children."²⁴ National Parks director Stephen Mather felt "clean living in God's great out-of-doors" would teach Americans to "love more deeply the land in which they live"; Wilderness Society founder Robert Marshall sought "stamina and élan" that could be nurtured only "away from the coddling of civilization."²⁵

When the clash between wilderness preservation and public access became evident in the 1930s, wildlife experts denounced mass incursions as "mechanized recreation" and "industrial tourism." But populist pressures overcame purist objections. Along with ecological science, wilderness under the New Deal took a back seat to promoting access, opening up scenic areas, and reshaping nature for the benefit of the general public. And national forest visits multiplied ten-fold from 1944 to 1960. Huge new demands for "pristine" nature continue to alter the balance between clashing recreational and ecological needs.

The basic transition from extractive to quality-of-life concern in America's protected areas is marked in the Multiple Use-Sustained Yield Act of 1960 and the Wilderness Act of 1964. Forest custodial priorities shifted from fire prevention and timber production to wide-ranging environmental benefits. But these are ranked differently than for Marsh, Pinchot, even Aldo Leopold. For example, water quality today rates above watershed protection, biodiversity above soil erosion, restoration ecology above equable stream flow.

All in all, however, the new amenity focus serves forest ecology better than the earlier emphasis on timber extraction and replenishment. Foresters today emulate nature in ways scorned by their efficient, tidy-minded predecessors: leaving large and dead trees as biological habitats, preserving keystone species of trees and animals to avert cascading predator losses, taking on board the uncertainty of nature's disturbance regimes along with nature's rhythms. Forests formerly neglected as commercially worthless are now often valued as desirable milieus. Just as with their role in curbing runoff and erosion, any forest may be better than none.²⁶

STEWARDSHIP

Marsh and Pinchot agreed most of all in their devotion to Stewardship—sharing resources for present and future equity. To both, this meant government control of natural resources. The imperilled lot of those to come was *Man and Nature's* prime concern. “Man has too long forgotten,” thundered Marsh, “that the world was given to him for usufruct alone, not for consumption, still less for profligate waste.” For the sake of our offspring, we must mend our prodigal and thriftless ways. Above all this required forest care. “The preservation of existing woods, and the far more costly extension of them where they have been unduly reduced, are among the most obvious of the duties which this age owes to those that are to come.” Marsh felt such stewardship was “especially incumbent upon Americans” deeply indebted to pioneer forebears’ “toils and sacrifices”—a debt repayable only “by a like self-forgetting care for the moral and material interests of our own posterity.”²⁷

But to heed the future, Americans had first to be more mindful of the past. A restless mobility severed them from home, from forebears, and from tradition. “It is rare that a middle-aged American dies in the house where he was born, or an old man even in that which he has built,” noted Marsh in 1847. “This life of incessant flitting is unfavorable for the execution of permanent improvements.” Farmers shunned tree planting because trees grew slowly: “the longest life [of any individual owner] hardly embraces the seedtime and the harvest of a forest, the value of its timber will not return the capital expended and the interest accrued” for many generations. For “a landholder to plant a wood on a farm he expects to sell, or which he knows will pass out of the hands of his descendants,” was poor economy.

Hence “the planter of a wood must be actuated by higher motives than those of an investment”—the future well being of the wider community. And such altruism would serve the present too, Marsh argued; for setting “an approximately fixed ratio” between woodland, pasture, and arable would reduce the “restlessness” and “instability” of American life. “The very fact of having begun a plantation would attach the proprietor more strongly to the soil for which he had made such a sacrifice.”²⁸

Marsh initially trusted “enlightened self-interest [to] introduce the reforms, check the abuses, and preserve us from an increase of [the] evils” he had listed. Unlike Old World serfs, American

yeomen owned the land they tilled and could reap the benefits of their own improvements. But selfish individualism, the lure of instant profits, and the cancer of corporate monopoly dimmed Marsh’s hopes. Unless it were “his pecuniary interest to preserve them, every proprietor will fell his woods.” Even the French, “who love best to be governed and are least annoyed by bureaucratic supervision,” defied laws against the “wasteful economy of private forests;” free-born Americans would stomach no effort to abridge “the sacred right of every man to do what he will with his own.” Only public control could curb maltreatment of nature, protect national resources, conserve the common weal. To be sure, government power spawned official abuse. “But the corruption thus engendered, foul as it is, does not strike so deep as the rottenness of private corporations.”²⁹

As with woods, so with waters; Marsh’s 1874 irrigation report to Congress mandated public ownership. Private control bred “vested rights and monopolies liable to great abuse.” The huge capital outlay required for irrigation squeezed out small landowners, leaving only hired laborers lacking any “proprietary interest in the land they till.” In Italy, where Marsh was still American envoy, irrigation had killed off the rural middle class. America’s moral as well as physical well being demanded *favoring* smallholders. Social and economic equity in the arid West required making “all lakes, rivers, and natural water-courses the inalienable property of the State.”³⁰ Only enlightened public management could prevent injustice today, desolation tomorrow.

Marsh’s prescribed controls flew in the face of customary faith in liberty and enterprise. The public domain was fast being sold off for development, notably by railroads along rights of way spanning the continent. There was no hope of statutory conservation, little of implanting it by example. Lacking European autocratic power, Fernow despaired of state forest management in America. Helpless even against blatant theft from federal forests, Hough, Schurz, Egleston, and Warder settled perforce for a purely hortatory and advisory forest service. They hoped to inculcate reform by warning of timber famine and by offering models of prudent long term management. But when Pinchot returned to America in 1891 “not a single acre of Government, state, or private timberland was under systematic forest management,” for “it had not dawned upon [Americans] that timber can be cut without forest destruction, or that the forest can be made to produce crop after crop.”³¹

Pinchot resolved to change all this. And though his stewardship aim was more economic than environmental, his goal like Marsh's was sustained yield: to husband and improve nature not only for today but for generations to come. Also like Marsh, he sought government ownership to save public resources from private interest and corporate greed.

Most trenchant was Pinchot's devotion to the nation's future; his visions of *perpetual* timber supply, *perpetual* forest cover, so alarmed wise-use allies that he had to parry the "misconception that conservation means nothing but the husbanding of resources for future generations." But Pinchot was aghast at grab-and-get-out speculators and lumbermen who ignored the future because the future had done nothing for them. "The purpose of Forestry ... is to make the forest produce the largest possible amount of whatever crop or service will be the most useful, and keep on producing it for generation after generation of men and trees."³² He had timber in mind, but his dictum applied just as well to aesthetic or environmental goals. It did not occur to him that what men judged "most useful" might change, and forest management willy-nilly with it.

Early Americans could afford to ignore posterity; when soils were exhausted or forests gone their heirs would go West. But now the West was won; there was no more land; wasteful destruction must cease, bade Roosevelt and Pinchot at the 1908 Governors' Conference. "The patriotic duty of insuring the safety and continuance of the Nation" meant stewarding natural resources against the previous "right of the individual to injure the future of the Republic for his own present profit."³³ The American conservation movement exemplified the economist A. C. Pigou's dictum that "it was the clear duty of government" to serve as "trustee for unborn generations as well as for its present citizens" against the rash and reckless despoliation of natural resources.³⁴

Pinchot's stewardship ethos antedates W J McGee's "the greatest good of the greatest number for the longest time." But that phrase crucially linked the longest time with the greatest number. "McGee made me see, at long last and after much argument, that the concentration of natural wealth... is one of the greatest of Conservation problems; monopoly of natural resources was only less dangerous to public welfare than their actual destruction."³⁵ As *Man and Nature* and Brandis taught Pinchot, forest conservation could succeed only if those who lived in and near the forest, and finally the public in general, were for it.

Pinchot castigated his successors Graves and Greeley as "wicked, incompetent, greedy, and basically antisocial" dupes of lumbermen, whose destructive modes of logging, uncurbed by the Forest Service, prevented forest regeneration. Only public ownership could halt physical devastation and ensuing social ruin.³⁶ Since Americans spurned expert advice for their own woodlands, the lead must come from *federal* forests. Hence Pinchot stressed forest reserves, with government the strict custodian of the nation's prime asset. His reliance on federal control reflects his own achievements since Marsh had lamented federal impotence in the navy's Florida live-oak reservation; "more than once, it had paid contractors a high price for timber stolen from its own forests."³⁷

After Pinchot, foresters' concern with equity and for the future dwindled, then revived along with new 1960s management goals. Although "ecologically sound stewardship has long been a cornerstone of the forestry profession," notes a recent overview, for previous sustained-yield forestry this stewardship ethic was "generally devoid of ecosystem perspectives."³⁸ What is now thought "ecologically sound" is ever broader and more complex.

But stewardship has not kept pace with forestry's growing ecological nous. Back in 1920, Pigou had found "wide agreement that the State should protect the interests of the future" to offset "our preference for ourselves against our descendants." Eighty years later, inter-generational equity remains an unrealized dream. Many economists still sanctify market forces as guarantors of environmental quality and hold private landowners the best watchdogs for the interests of others now and in the future. But sad experience to the contrary inclines the public to favor public land management.³⁹ In short, Americans are ambivalent: they still think each entitled to do what he will with his own, in Marsh's phrase, yet at the same time see that this disserves the public interest.

CONCLUSION

Pinchot's preachment as Bull Moose reformer may inspire, but most settle for his pragmatic forestry; sustained-yield on federal reserves, no unworkable controls over private woodlands. Ironically, wilderness buffs followed suit: they focused on the precious jewels they could control by purchase and ignored the rest of the country. Hence "we've ended up with an 'all or nothing' landscape," chides Michael Pollan, doing "an admirable job of drawing lines around certain sacred areas and a terrible job of managing the rest of our land. Once a landscape is no longer 'virgin', it is typically written off as fallen, lost to nature, irredeemable. We hand it over to the jurisdiction of that other sacrosanct American ethic: laissez-faire economics."⁴⁰

As with the extremes of wilderness (8 percent of the land) and the marketplace (all the rest), so with the forest: we have special reserves well stewarded for present needs and future well being, and most woodland devoid of care. The habit of segregation is disastrous, for it confirms the idea that only what is special is worth saving; what is ordinary is worthless. It is socially as well as environmentally divisive, setting the rich against the rest, gated private landscapes locked away from the scrum of everywhere America.

The wall between private and public, exclusive and inclusive, is now under assault from both sides. On the one hand, the public realm gives way to growing corporate might. With government ever more beholden to business enterprise, one-time public trusts get transferred to private firms, whose ethos is material gain and whose time span of concern is more apt to be months than millennia. Hence federal forest reserves come under risk from immediate marketplace pressures. Like California's utility and Britain's rail disasters, resource privatization threatens to subvert the stewardship principles of Marsh and Pinchot.

From the other side comes growing public concern with the environment and demand for a voice in decision-making. Environmental advances over the past generation have come largely in response to public involvement, with remarkable reforms in government, science, and industrial policy. Awareness of the living and lived-in landscape has also mounted. Americans have not settled down as Marsh wanted them to. But they manifest a concern with their domestic milieus unimaginable in Marsh's or Pinchot's time. They aspire to beauty and health not

only in spectacular holiday forests but also in humble woodlands at home. The well being of the whole forested landscape may be enhanced as its ever-expanding ecological benefits gain popular political clout, building on the stewardship ethos of Marsh and Pinchot. But there can be no instant fix. "The *improvement* of forest trees is the work of centuries," as Marsh wrote apropos the Arnold Arboretum in 1879. "So much the more reason for beginning *now*."⁴¹

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